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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/737,254 | 12/15/2003 | Shengming Huang | 50019.268US01/P05726 | 5822 |
| 23552 | 7590 | 09/23/2005 | EXAMINER | |
| MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903 | | | CUNNINGHAM, TERRY D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2816 | |
| DATE MAILED: 09/23/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,254

Applicant(s)

HUANG ET AL.

Examiner

Terry D. Cunningham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 2,4 and 7-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 August 2005 has been entered.

Claim Objections

Claim 17, line 6, is seen to be awkward as reciting the step of "comparing ...differentially". It is suggested this be changed to --differentially comparing--. Claim 18 is objected to for the reasons of claim 17. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5, 6 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by D'Angelo (USPN 6,166,530).

With respect to claims 1, 3, 5, 6 and 12, D'Angelo discloses, in Figs. 5 and 7-9, a circuit comprising: "a power device (102)"; "a load (104)"; "a current sense circuit (110-112)"; "a first transistor (314 of Fig. 9)" having "a p-channel transistors"; "a short-circuit detection signal (GATE)" "as a logic signal"; "a second transistor (148 one or more of transistors 120-136)"; "a

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differential comparator (302-308 and 318 of Fig. 9)” providing “an output that is associated with the short-circuit detection signal (signal between 308 and 308 of Fig. 9)”; and “a third p-type transistor” (140)”, all connected and operating similarly as recited by Applicant.

With respect to claims 13-16, D’Angelo discloses, in Fig. 5, a circuit comprising: “a power device (102)”; “a load (104)”; “a current sense means (110-112)”; “a disabling means (314 of Fig. 9)”; “a recovery current means (148 one or more of transistors 120-136)”; “a differential comparator (302-308 and 318 of Fig. 9)”; and “a minimum over-drive means (115)”, all connected and operating similarly as recited by Applicant.

With respect to claims 17-20, D’Angelo discloses, in Fig. 5, a circuit having “a power device (102)” and “a load (104)” that will provide the method comprising: “sensing a current (with 110-112)”; “sensing an output voltage (with 302-308 and 318 of Fig. 9)”; “comparing the sense signal with the sensed output voltage (with 302-308 and 318 of Fig. 9)”; “asserting a short-circuit detection signal (with 302-308 and 318 of Fig. 9)”; “disabling the power device (with 314)”; “enabling a current source (with 148-154)”; “detecting when the short-circuit condition is removed (with 110-112)”; “enabling the power device (when VREF falls below PILOT)”; and “maintaining a minimum overdrive condition (with 115)”.

With respect to claim 18, clearly the threshold of 110 and the resistance of 112 will vary responsive to changes in temperature.

Claims 2, 4 and 7-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner has fully considered Applicant's remarks for the above rejection and has not found them to be persuasive. The above rejections have been modified with respect to the changes in the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terry Cunningham whose telephone number is 571-272-1742. The examiner can normally be reached on Monday-Thursday from 7:30 to 6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC
September 19, 2005


Terry D. Cunningham
Primary Examiner
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